

AMENDMENTS TO THE CLAIMS

Please amend Claims 1, 2, 4 and 7-9 and cancel Claim 3 as follows:

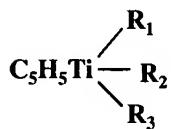
1. (Currently Amended) A process for hydrogenation of a conjugated diene polymer, the process comprising:

(a) polymerizing or copolymerizing at least one conjugated diene in a hydrocarbon solvent using an organic alkali metal polymerization initiator to prepare a living polymer;

(b) adding a terminating agent selected from amines, esters, ketones or halogen compounds to deactivate an active terminal of the living polymer; and

(c) selectively hydrogenating the conjugated diene polymer using at least one organotitanium compound ~~represented by the formula~~ and a highly active lithium hydride having a z-average precisely controlled particle diameter less than 2,000 nanometers, which is as prepared from a by reacting an alkyl lithium solution with gaseous hydrogen in a loop-type reactor equipped with an a high speed injection nozzle, a circulating pump and a heat exchanger, the organotitanium compound being represented by

Formula 1



where R₁ is selected from cyclopentadienyl, C₁ to C₈ alkoxy, C₆ to C₂₀ aryloxy, or halogen; and R₂ and R₃ are the same or different and selected from halogen, C₁ to C₈ alkyl or alkoxy, C₆ to C₂₀ arylalkyl or aryloxy, or C₇ to C₂₀ alkoxyaryl or carbonyl.

2. (Currently Amended) The process as claimed in claim 1, mole ratio of the highly active lithium hydride to organotitanium compound is in the range of 2:1 ~ 30:1.

3. (Cancelled)

4. (Currently Amended) The process as claimed in claim 21, wherein the highly active lithium hydride ~~having a precisely controlled particle diameter~~ has a z-average particle diameter within of less than 500 nanometers.

5. (Original) The process as claimed in claim 1, wherein the organic alkali metal polymerization initiator includes an organolithium compound.

6. (Original) The process as claimed in claim 1, wherein the hydrocarbon solvent is selected from aliphatic hydrocarbons such as n-pentane, n-hexane, n-heptane, or n-octane; aliphatic cyclic hydrocarbons such as cyclohexane, or cycloheptane; ethers such as diethylether, or tetrahydrofuran; or aromatic hydrocarbons such as benzene, toluene, xylene, or ethylbenzene.

7. (Currently Amended) The process as claimed in claim 1, wherein the represented organotitanium compound ~~represented by the formula 1~~ includes monocyclopentadienyl(2,6-di-t-butyl-4-methylphenoxy)titanium dichloride, or bis(cyclopentadienyl)titanium dichloride.

8. (Currently Amended) The process as claimed in claim 1, wherein the conjugated diene includes isoprene, or butadiene.

9. (Currently Amended) The process as claimed in claim 1, wherein the terminating agent includes at least one selected from the group consisting of benzyl chloride, benzyl bromide, benzyl iodide, methyl chloride, methyl bromide, methyl iodide, ethyl chloride, ethyl bromide, ethyl iodide, butyl chloride, butyl bromide, butyl iodide, acetone, methylisobutylketone, diphenylketone, methanol, ethanol, isopropanol, butanol, phenol, cresol, 2,6-di-t-butyl-4-methyl phenol, ethylacetate, butylacetate, trimethylsilylfluoride, trimethylsilylchloride,-, trimethylsilylbromide, trimethylsilyliodide, triethylsilylfluoride,-, triethylsilylchloride,-, triethylsilylbromide, triethylsilyliodide, tributylsilylfluoride, tributylsilylchloride,-,

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tributylsilylchloride, tributylsilyliodide, triphenylsilylfluoride, triphenylsilylchloride, triphenylsilylbromide, and triphenylsilyliodide.